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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/573,682	09/18/2006	David Paul Manson	M04B132	7131

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Edwards Vacuum, Inc.
2041 MISSION COLLEGE BOULEVARD
SUITE 260
SANTA CLARA, CA 95054

EXAMINER

LETTMAN, BRYAN MATTHEW

ART UNIT	PAPER NUMBER
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3746

NOTIFICATION DATE	DELIVERY MODE
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04/29/2010

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

LORETTA.SANDOVAL@EDWARDSVACUUM.COM

Office Action Summary	Application No. 10/573,682	Applicant(s) MANSON ET AL.	
	Examiner Bryan Lettman	Art Unit 3746	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 February 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 March 2006 and 01 February 2010 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

The amendment filed February 1, 2010 has been entered. Claims 1-20 remain pending in the application. The previous objections to the drawings are withdrawn in light of Applicant's amendment to the drawings.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 12, 13, 17 and 20 are rejected under 35 U.S.C. 102(e) as being anticipated by PCT Publication WO2004/005720 to Stellnert.

Referring to claim 1, Stellnert discloses a method of pumping comprising the steps of:

monitoring the performance of a pump (1) (page 4, lines 18-20);

receiving process data from, or directly associated with, a tool being evacuated by the pump (1) (page 4, lines 18-25);

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calculating fluid flow characteristics required to compensate for the accumulation of deposits on the internal working surfaces of the pump (1) based on the monitored performance and the process data (page 5, lines 1-12); and

introducing fluid into the pumping mechanism in accordance with the calculated characteristics (page 5, lines 14-28; page 8, lines 10-13).

Referring to claim 12, Stellnert further discloses a method of pumping comprising the steps wherein:

the fluid flow characteristics are temperature (page 11, lines 19-23).

Referring to claim 13, Stellnert further discloses a method of pumping comprising the steps wherein:

the fluid is introduced during normal operation of the pump (1) (page 4, lines 11-15).

Referring to claim 17, Stellnert discloses a pump comprising:

a vacuum pump (1) having a rotor element (18, 19) and a stator element (14a), and at least one fluid port (22);

means for monitoring the performance of the pump (1) (page 4, lines 18-20);

means for receiving process data from, or associated with, a tool adapted to be evacuated by the pump (1) (page 4, lines 18-25);

means for calculating fluid flow characteristics required to compensate for the accumulation of deposits on the internal working surfaces of the pump (1) based on the monitored performance and the process data (page 5, lines 1-12); and

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means for introducing into the pump (1) via the at least one port (22) and in accordance with the calculated characteristics, fluid for acting on deposits located on the element surfaces to enable the deposits to be removed therefrom (page 5, lines 14-28; page 8, lines 10-13).

Referring to claim 20, Stellnert further discloses a method of pumping wherein: the monitoring step comprises recording motor current of the pump (1) (page 11, lines 7-8, wherein the power consumption is directly related to the current; see also MPEP 2144.08, an electricity meter is a genus and a current meter is a species of that genus).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2, 3, 7 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over PCT Publication WO2004/005720 to Stellnert in view of U. S. Patent Publication 2002/0034880 to Sakai.

Referring to claims 2 and 3, Stellnert teaches all the limitations of claim 1, as detailed above, but does not teach a halogen or fluorinated fluid. Sakai teaches a method wherein:

a fluid comprises a fluorinated gas which is a halogen (paragraph [0084], lines 18-21).

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It would be obvious to one of skill in the art, at the time of invention, to modify the pumping method taught by Stellnert with the gas taught by Sakai in order to provide a fluid with properties advantageous to the capture of loose particles (Sakai paragraph [0084]).

Referring to claims 7 and 18, Stellnert and Sakai teach all the limitations of claim 2, as detailed above, and Stellnert further teaches a method wherein:

a second fluid is also introduced to the pump (1), this second fluid being inert purge gas (page 14, lines 24-28); and

the second fluid is introduced after injection of the first fluid has terminated (page 14, lines 24-28).

Claims 4, 5, 6, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over PCT Publication WO2004/005720 to Stellnert in view of U. S. Patent 5,718,565 to Kuhn.

Referring to claims 4, 5 and 6, Stellnert teaches all the limitations of claim 1, as detailed above, but does not teach an inert purge gas. Kuhn teaches a method wherein:

a fluid comprises inert purge gas (col. 2, lines 50-54) at an elevated pressure.

It would be obvious to one of skill in the art, at the time of invention, to modify the pumping method taught by Stellnert with the gas taught by Kuhn in order to provide a fluid which will not react with the pump components or entrained debris. Furthermore a purge gas is inherently at an elevated pressure, commonly at a pressure slightly above

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atmospheric pressure, such as of 2000 mbar, as it would not otherwise be capable of displacing the volume to be purged.

Referring to claim 16, Stellnert teaches all the limitations of claim 1, as detailed above, but does not teach measuring the pressure at the exhaust. Kuhn teaches a method wherein:

the monitoring step comprises recording pressure at the exhaust of the pump (col. 3, lines 47-52).

Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over PCT Publication WO2004/005720 to Stellnert in view of U. S. Patent Publication 2002/0034880 to Sakai and U. S. Patent 6,224,326 to Puech.

Referring to claim 8, Stellnert and Sakai teach all the limitations of claim 7, as detailed above, but do not teach the introduction of gas at different locations. Puech teaches a method wherein:

fluids are introduced at different locations in the pump (col. 4 lines 27-30).

It would be obvious to one of skill in the art, at the time of invention, to modify the pumping method taught by Stellnert with the gas passages taught by Puech in order to provide a means for concurrently cleaning multiples stages.

Referring to claim 9, Stellnert, Sakai and Puech teach all the limitations of claim 7, as detailed above, and Stellnert further teaches a method wherein:

the first fluid is directed to the internal working surfaces of the pump (1) (shown in Fig. 2, page 6, lines 27-29).

Claims 10 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over PCT Publication WO2004/005720 to Stellnert in view of U. S. Patent Publication 2002/0034880 to Sakai, U. S. Patent 6,224,326 to Puech and U. S. Patent 5,718,565 to Kuhn.

Stellnert, Sakai and Puech teach all the limitations of claims 8 and 9, as detailed above, but do not teach directing a fluid to the seal. Kuhn teaches a method wherein:
a fluid is directed towards sealing components (15) of a pump (1) (col. 2, lines 50-54).

It would be obvious to one of skill in the art, at the time of invention, to modify the pumping method taught by Stellnert with the seal taught by Kuhn in order to provide a means for cleaning the seal.

Claims 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over PCT Publication WO2004/005720 to Stellnert in view of U. S. Patent 4,995,794 to Wycliffe.

Stellnert teaches all the limitations of claims 1 and 13, as detailed above, but does not teach the introduction of gas through the exhaust section of the pump.

Wycliffe teaches a method of pumping wherein:

a fluid is introduced into an exhaust section (8) of a pump (shown in Figure wherein gas is introduced through 15); and

the fluid is introduced when the pump is off line (col. 12-15 wherein the pump goes offline when the valve 7 is closed).

It would be obvious to one of skill in the art, at the time of invention, to modify the pumping method taught by Stellnert with the flow path taught by Wycliffe in order to prevent the build up of evacuated gas in the discharge conduit (Wycliffe col. 4, lines 54-61).

Response to Arguments

Applicant's arguments filed February 1, 2010 have been fully considered but they are not persuasive. Applicant argues that data associated with the vacuum pump, such as the vacuum pump discharge temperature, is not directly associated with the tool being evacuated by the pump. However, process data indicating performance of the pump is directly associated with process data of the tool being evacuated, since changes in the conditions within the tool being evacuated would directly cause changes in the outlet conditions of the vacuum pump and changes in the efficiency and speed of the pump. Furthermore, the control unit 10 of Stellnert compares the captured pump performance data with stored reference values, in order to determine the condition of the pump (page 11, lines 19-31). In order to make this comparison, in order to know which reference values to use, the control unit inherently must know what the pump operating conditions are. Accordingly the controller must know what the pump inlet conditions, which would be the directly associated with the conditions of the tool being evacuated. Accordingly, Applicant's argument is not persuasive.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bryan Lettman whose telephone number is (571) 270-7860. The examiner can normally be reached on Monday - Thursday between 9:00 am and 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Devon Kramer can be reached on (571) 272-7118. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/B. L./
Examiner, Art Unit 3746

/Devon C Kramer/
Supervisory Patent Examiner, Art
Unit 3746